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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,617	06/24/2004	Deshanand Singh	ALT.P023 (A1258)	2655
27296	7590	10/06/2006	EXAMINER	
LAWRENCE M. CHO			BOWERS, BRANDON	
P.O. BOX 2144			ART UNIT	
CHAMPAIGN, IL 61825			PAPER NUMBER	
			2825	

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/806,617

Applicant(s)

SINGH ET AL.

Examiner

Brandon W. Bowers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claim 11 is objected to because of the following informalities: "Claim 1" should be "Claim 10". Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-7, and 26-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Under the current interim 101 guidelines processes must return a tangible result. The above claims do not return a tangible result, but instead conclude on a step of identifying components which in and of itself is likened to a thought that has not been conveyed. Some sort of conveyance of the identification must be made (saving, showing, using) to indicate a tangible result to the process.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-34 are rejected under 35 U.S.C. 102(a) as being anticipated by Beraudo et al, "Timing Optimization of FPGA Placements by Logic Replication". Beraudo teaches performing logic replication including synthesizing a design, mapping components to resources, placing components on a target device (section 4.1), identifying components to replicate in response to timing criticalities (section 4.2), and performing incremental placement of duplicates in an iterative fashion until the algorithm fails to get an improvement for a certain number of iterations in a row (section 4.1)

Claims 1-34 are rejected under 35 U.S.C. 102(a) as being anticipated by Mak et al, "Temporal Logic Replication of Dynamically Reconfigurable FPGA Partitioning". Mak teaches performing logic replication including synthesizing a design, mapping components to resources, placing components on a target device (Section II), identifying components to replicate in response to timing criticalities (Section III), and performing incremental placement of duplicate logic in an iterative fashion (Section IV).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Nag, US Patent No. 6,099,583. Nag teaches a method of incrementally improving the placement of a FPGA design by moving logic components according to a annealing

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process that includes a incremental movement according to a cost function based upon slack values (Figure 24, column 25 line 62 – column 26 line 20, column 40 lines 42-63,). As exemplified in Figure 24, Nag removes the logic from it's current location, performs slack allocation, and then places duplicate logic in a new location.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon W. Bowers whose telephone number is (571)272-1888. The examiner can normally be reached on 8:30 am until 5:00 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on (571)272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


JACK CHIANG
SUPERVISORY PATENT EXAMINER